What is claimed is:

1. In a real time operating system for supporting at least one application, a processor and at least one hardware resource, the improvement comprising, in combination:

a) a power manager layer; and

b) said power manager layer being arranged to exchange information with said at least one application, said processor and said at least one hardware resource to provide real time power management responsive to said information.

2. An operating system as defined in Claim 1 wherein said at least one application includes at least one application-program interface call to said power manager layer.

3. An operating system as defined in Claim 2 wherein said at least one call includes:

a) a notification that said at least one application has been initiated; and

b) a notification that said at least one application has ended.

4. An operating system as defined in Claim 3 wherein said application is characterized by:

a) a utilization profile; and

b) said utilization profile is transmitted to said power manager with said start call.

5. An operating system as defined in Claim 2 wherein said at least one call includes:

a) a notification that said at least one application requires at least one hardware resource; and

b) a notification that said at least one application no longer requires said at least one hardware resource.

6. An operating system as defined in Claim 1 further comprising:

a) a hardware abstraction layer;

b) information is exchanged between said power manager layer and said hardware abstraction layer by means of application-interface calls; and

c) said hardware abstraction layer is arranged to cause said processor to be actuated in accordance with said calls.

7. An operating system as defined in Claim 1 further comprising:

a) a driver layer; and

b) information is exchanged between said power manager layer and said driver layer by means of application-program interface calls.

8. An operating system as defined in Claim 1 wherein said power manager layer further comprises:

a) a processor power state selection mode; and

b) a hardware resource power state selection mode.

9. An operating system as defined in Claim 8 wherein said power manager layer includes a resource allocation table.

10. An operating system as defined in Claim 1 wherein said driver layer is arranged to:

a) receive an application-program interface call containing a power state instruction concerning a resource from said power manager layer and to generate a corresponding instruction; and

b) transmit corresponding information to said hardware abstraction layer by application-program interface call.

11. An operating system as defined in Claim 6 wherein said hardware abstraction layer is further arranged to:

a) exchange information with a driver layer by means of program-interface calls; and

b) cause said at least one resource to be actuated in accordance with said calls.

12. A real time power management system for a processor-driven hardware platform for supporting at least one application, said platform having at least one hardware resource wherein said processor is characterized by a plurality of power states and said at least one hardware resource is characterized by a plurality of power states, said power management system comprising, in combination:

a) an operating system for controlling said processor and said at least one hardware resource;

b) said operating system including a power manager layer arranged to select a processor power state and a power state of said at least one hardware resource in response to a real time input from said at least one application.

13. An integrated power management system as defined in Claim 12 wherein:

a) said real time input is provided by means of an application-program interface call from said at least one application to said power manager layer.

14. An integrated power management system as defined in Claim 13 wherein said at least one call of said at least one application additionally includes:

a) a notification that said at least one application has been initiated; and

b) a notification that said at least one application has ended.

15. An integrated power management system as defined in Claim 13 wherein said at least one call of said at least one application additionally includes:

a) a notification that said at least one application requires at least one hardware resource; and

b) a notification that said at least one application no longer requires said at least one hardware resource.

16. A method for controlling power consumption in a hardware platform responsive to information from at least one application, said platform including a processor having a plurality of power states and at least one hardware resource characterized by a plurality of power states, said method comprising the steps of:

organizing said operating system into a kernel, a driver layer, a hardware abstraction layer, and a power manager layer;

applying at least one real time input from said at least one application to said power manager layer;

determining a power management policy in said power manager layer in response to said at least one real time input;

communicating said power management policy from said power manager layer to said processor and said at least one hardware resource.

17. A method as defined in Claim 16 wherein the step of determining a power management policy additionally comprises the step of determining a processor power state.

18. A method as defined in Claim 16 wherein the step of determining a power management policy additionally comprises the step of determining a power state of said at least one hardware resource.

19. A method as defined in Claim 16 wherein the step of applying at least one real time input additionally includes the steps of:

embedding an application-processor interface call into said at least one application; and

communicating said real time input by means of said call.

20. A method as defined in Claim 16 wherein the step of communicating said power management policy from said power manager layer to said processor and said at least one hardware resource additionally includes the steps of:

embedding application-program interfaces into said power manager layer, said driver layer and said hardware abstraction layer; and

communicating said power management policy by means of said calls.